

IN THE CLAIMS:

1-11. (Canceled)

12. (Previously Presented) An intramedullary nail comprising:

an elongated nail body having a proximal end, a distal end for insertion into the medullary canal, a central axis and a total length L;

three locking sections along the length of the nail body between the proximal and distal ends, each locking section including a through-hole for receiving a locking screw, the three locking sections including a proximal locking section, a medial isthmus locking section and a distal locking section; and

two distinct intermediate sections separating the three locking sections, the intermediate sections having fewer through-holes per unit length than each of the three locking sections,

wherein the locking section nearest the proximal end has a length L_5 forming an angle β with the intermediate section adjacent the proximal locking section where β is in the range of $7^\circ < \beta < 13^\circ$,

wherein the locking section nearest the proximal end comprises an elongated through-hole; and

wherein the isthmus locking section includes a proximal through hole and a distal through hole, the proximal through hole being arranged at an angle of 90° relative to the distal through hole.

13. (Previously Presented) The intramedullary nail of claim 12, wherein the intermediate sections have no through-holes

14. (Previously Presented) The intramedullary nail of claim 12, wherein:

the proximal locking section extends from the proximal end toward the distal end over a length L_5 , where $0.22 L < L_5 < 0.28 L$, and has a distal boundary;

the distal locking section extends from the distal end toward the proximal end over a length L_6 , where $0.18 L < L_6 < 0.22 L$, and has a proximal boundary; and

the isthmus locking section is located between the distal and proximal locking sections, and has a proximal boundary, a distal boundary and a length L_7 where $0.08 L < L_7 < 0.15 L$.

15. (Previously Presented) The intramedullary nail of claim 14, wherein the proximal boundary of the isthmus locking section is spaced a distance L_9 from the distal boundary of the proximal locking section, where $0.27 L < L_9 < 0.33 L$.

16. (Previously Presented) The intramedullary nail of claim 14, wherein the distal boundary of the isthmus locking section is spaced a distance L_{10} from the proximal boundary of the distal locking section, where $0.13 L < L_{10} < 0.30 L$.

17. (Previously Presented) The intramedullary nail of claim 16, where $0.32 L < (L_{10} + L_6) < 0.50 L$.

18. (Previously Presented) The intramedullary nail of claim 14, wherein the first intermediate section has a length L_9 between the proximal locking section and the isthmus locking section,

and the first intermediate section has no through holes.

19. (Previously Presented) The intramedullary nail of claim 18, wherein the second intermediate section has a length L_{10} between the distal locking section and the isthmus locking section, and the second intermediate section has no through holes.

20. (Previously Presented) The intramedullary nail of claim 12, wherein the proximal through hole of the isthmus locking section is parallel to the elongated through hole of the proximal section.

21. (Previously Presented) The intramedullary nail of claim 12, wherein the through hole located nearest to the distal end is spaced a distance L_D to the distal end, where $0.01 L < L_D < 0.38 L$.

22. (Previously Presented) The intramedullary nail of claim 12, wherein the through hole located nearest to the proximal end is spaced a distance L_P to the proximal end, where $0.01 L < L_P < 0.70 L$.

23. (Previously Presented) An intramedullary nail comprising:

an elongated nail body having a proximal end, a distal end for insertion into the medullary canal, a central axis and a total length L ;

a proximal locking section, distal locking section, and isthmus locking section spaced along the length of the nail body, the proximal locking section nearest the proximal end, the distal locking section nearest the distal end, and the isthmus locking section located between the proximal and distal locking sections, and each locking section including a through-hole for receiving a locking screw;

a first intermediate section separating the proximal and isthmus locking sections, and a second intermediate section separating the isthmus and distal locking sections, each intermediate sections having fewer through-holes per unit length than the locking sections,

wherein the proximal locking section forms an angle β with the first intermediate section, where β is in the range of $7^\circ < \beta < 13^\circ$,

wherein the proximal locking section comprises an elongated through-hole, and

wherein the isthmus locking section includes a proximal through hole and a distal through hole, the proximal through hole being arranged at an angle of 90° relative to the distal through hole.

24. (Previously Presented) The intramedullary nail of claim 23, wherein the intermediate sections have no through-holes.

25. (Cancelled)